

APPLICANTS: Peled et al.
U.S.S.N.: 10/767,064

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-200 (Canceled).

201. (Currently Amended) A method of expanding an *ex-vivo* population of CD34+, CD34+/CD38- and/or CD 133+ hematopoietic stem cells, while at the same time, inhibiting differentiation of the hematopoietic stem cells *ex-vivo*, the method comprising providing hematopoietic mononuclear cells that are not enriched prior to culturing; culturing said mononuclear cells *ex-vivo* for a period greater than 7 days under conditions allowing for cell proliferation, said conditions comprising providing nutrients and at least an early acting cytokine or cytokines and, at the same time, culturing said mononuclear cells under conditions inhibiting differentiation of said hematopoietic stem cells, said conditions comprising providing in the presence of at least one copper chelator which reduces intracellular available copper concentration in said cells; thereby expanding a population of said hematopoietic stem cells while at the same time inhibiting differentiation of said hematopoietic stem cells *ex-vivo* for a period greater than 7 days.

202-208. (Cancelled)

209. (Original) The method of claim 201, wherein said hematopoietic mononuclear cells are derived from a source selected from the group consisting of bone marrow, peripheral blood and neonatal umbilical cord blood.

210-211. (Cancelled)

212. (Previously Presented) The method of claim 201, wherein said early acting cytokine or cytokines is selected from the group consisting of stem cell factor, FLT3 ligand, interleukin-1, interleukin-2, interleukin-3, interleukin-6, interleukin-10, interleukin-12, tumor necrosis factor- α and thrombopoietin.

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213. (Previously Presented) The method of claim 201, further comprising providing a late acting cytokine or cytokines.

214. (Previously Presented) The method of claim 213, wherein said late acting cytokine or cytokines is selected from the group consisting of granulocyte colony stimulating factor, granulocyte/macrophage colony stimulating factor, erythropoietin, FGF, EGF, NGF, VEGF, LIF, Hepatocyte growth factor and macrophage colony stimulating factor.

215-238. (Cancelled)

239. (Previously Presented) The method of claim 201, wherein said hematopoietic mononuclear cells comprise a major fraction of hematopoietic committed cells and a minor fraction of hematopoietic stem and progenitor cells.

240-243. (Cancelled)

244. (Previously Presented) The method of claim 201, wherein said at least one copper chelator is tetraethylenepentamine (TEPA).

245. (New) The method of claim 201, wherein said period is greater than 14 days.